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Concentrations of Dissolved Rice Pesticides in the Colusa Basin Drain and Sacramento River, California, 1990-92

by

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Abstract

The measured concentrations of rice pesticides in the Colusa Basin Drain and the Sacramento River, California, decreased during 1990-92. Molinate, carbofuran, and thiobencarb are applied to the Sacramento Valley ricefields in April, May, and June. These pesticides are of concern because of the potential effect of discharge water from ricefields on striped bass larvae. Concentrations of dissolved pesticides from ricefields were measured at the Colusa Basin Drain (a major source of ricefield drainage) and the Sacramento River at Sacramento, Rio Vista, and Chipps Island during May, June, and July each year. The highest pesticide concentrations were measured at the Colusa Basin Drain with progressively decreasing concentrations downstream, principally because of dilution. During 1990-92, the maximum molinate concentration in the Colusa Basin Drain decreased by a factor of three each year. The maximum carbofuran concentration decreased by a factor of four during 1990-91. In contrast, the maximum carbofuran and thiobencarb concentrations in 1992 remained at the 1991 concentrations. The holding time before ricefield water could be discharged into the Sacramento River increased yearly during 1990-92. This allowed further degradation of the pesticides and resulted in the decreased concentrations of pesticides measured in the Colusa Basin Drain water and downstream sites.

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